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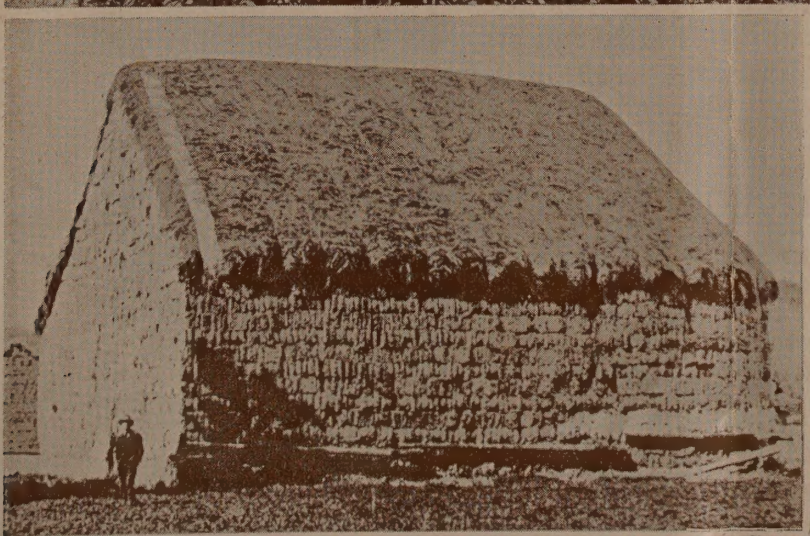
★ APR 7 1928 ★

U.S. Department of Agriculture

FARM SEEDS

FOR AUTUMN PLANTING

SEASON 1928



FOR GREEN FODDER
FOR GRAZING
FOR HAY OR
FOR SILAGE
LUCERNE STANDS
PRE-EMINENT
See Page 11

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Improved Pastures and More Cultivation

THE Autumn months of the year constitute the most favourable period for laying down new pastures and improving old pastures; an excellent time also (for most districts) for the sowing of Lucerne, universally known as the "King of Fodder Plants."

Pasture Improvement is now a subject of great interest to progressive farmers, and there is no doubt that in the tableland districts, in many parts of the coast and in the more favoured sections of the southern and western slopes, much good work can be done. We go further, and say that in those parts of the State referred to worn-out pastures must receive greater attention if an adequate return is to be obtained from land at its present values. We have made a careful study of the capabilities of the leading grasses, and are pleased to give special recommendations on receipt of particulars of location, rainfall, soil and area.

Increased cultivation is also an important factor when seeking greater production, but with the high working costs now ruling it is essential to make a careful selection of crops and to sow only high-grade seed of re-machined quality and tested growth.

This Catalogue has been carefully compiled, and we send it to our customers with the hope that it will be of material assistance when considering these important matters.

Arthur Yates & Co. Ltd.

Suppliers of Remachined and Tested Farm Seeds
184-186 SUSSEX ST., SYDNEY, N.S.W.

Address Letters

Box 2707-C, G.P.O., Sydney.
February, 1928

Address Telegrams

"Seedsman," Sydney.

YATES' FARM CALENDAR

Approximate times for sowing are denoted by—

† for moderately warm climates where Oranges thrive.

* for cool climates, say where English Fruits thrive.

The most suitable times for sowing are very largely influenced by local conditions and seasons, and these and any local experience available should always be taken into consideration.

Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Artichoke, Jerusalem	..	..	..	..	..	†	†	†	..	..	..	..	Peas, for Garden	..	†	†	†	†	†	†	†	†	†	†	†
Barley, English	..	†	†	†	†	..	..	..	..	..	..	..	" " Market	..	†	†	†	†	†	†	†	†	†	†	†
Barley (other varieties)	†	†	†	†	†	†	..	..	..	..	..	..	Pumpkin	..	..	..	..	..	..	..	..	..	..	..	..
Beet, Sugar	..	..	..	..	..	..	..	..	..	..	..	..	Potatoes	..	†	†	†	†	†	†	†	†	†	†	†
Beet, Silver (Field)	..	..	†	†	†	..	..	..	..	..	..	..	Rape	..	..	†	†	†	†	†	†	†	†	†	†
Buckwheat	..	..	..	..	..	..	..	..	..	..	..	..	Rye Corn	..	†	†	†	†	†	†	†	†	†	†	†
Canary	..	..	..	..	..	..	..	..	..	..	..	..	Rhodes Grass	..	†	†	†	†	†	†	†	†	†	†	†
Carrot (Field)	..	..	†	†	..	..	..	..	..	..	..	..	Sainfoin	..	..	..	..	..	..	..	..	..	..	..	..
Cabbage (Cattle)	..	..	..	..	..	..	..	..	..	..	..	..	Saltbush	..	..	..	†	†	†	†	†	†	†	†	†
Chicory	..	..	†	†	†	..	..	..	..	..	..	..	Shallots	..	..	†	†	†	†	†	†	†	†	†	†
Clover (Sorts)	..	..	..	..	..	..	..	..	..	..	..	..	Sheeps Burnet	..	..	†	†	†	†	†	†	†	†	†	†
Couch Grass	..	..	..	..	..	..	..	..	..	..	..	..	Sorghums & Millets:	..	..	..	..	..	..	..	..	..	..	..	..
Cow Pea	..	..	..	..	..	..	..	..	..	..	..	..	Saccharatum	..	†	†	†	..	..	..	..	..	..	..	..
Grasses, Pasture	..	..	..	..	..	..	..	..	..	..	..	..	Sacaline	..	†	†	†	..	..	..	..	..	..	..	..
Kale, Thousand Headed	†	†	†	†	..	..	..	..	..	..	..	..	Planters' Friend	..	†	†	†	..	..	..	..	..	..	..	..
Kale, Chou Moellier	†	†	†	..	..	..	..	..	..	..	..	..	Early Amber Cane	†	†	†	†	..	..	..	..	..	..	..	..
Linseed (Flax)	..	..	..	..	..	..	..	..	..	..	..	..	Millet, Fodder V'ties	†	†	†	..	..	..	..	..	..	..	..	..
Lucerne	..	..	..	..	..	..	..	..	..	..	..	..	Millet, Broom	..	..	..	..	..	..	..	..	..	..	..	..
Lupins	..	..	..	..	..	..	..	..	..	..	..	..	Grain Sorghums	..	..	..	..	..	..	..	..	..	..	..	..
Maize, for Grain	..	..	..	..	..	..	..	..	..	..	..	..	Soy Beans	..	†	..	..	..	..	..	..	..	..	..	..
Maize, for Fodder	..	†	†	..	..	..	..	..	..	..	..	..	Sudan Grass	..	..	..	..	..	..	..	..	..	..	..	..
Mangel	..	..	..	..	..	..	..	..	..	..	..	..	Sunflower	..	..	..	..	..	..	..	..	..	..	..	..
Mangel, Half Sugar	..	..	..	..	..	..	..	..	..	..	..	..	Swede	..	†	†	†	..	..	..	..	..	..	..	..
Millet (See Sorghum)	..	..	..	..	..	..	..	..	..	..	..	..	Tagosaste	..	..	..	†	†	†	†	†	†	†	†	†
Mustard	..	..	..	..	..	..	..	..	..	..	..	..	Tares	..	..	†	†	†	†	†	†	†	†	†	†
Melon, Cattle	..	..	..	..	..	..	..	..	..	..	..	..	Tobacco	..	..	..	..	..	..	..	..	..	..	..	..
Oats, for Fodder	..	..	..	..	..	..	..	..	..	..	..	..	Turnip (Field)	..	..	†	†	†	†	..	..	..	..	..	..
Oats, for Grain & Hay	..	..	..	..	..	..	..	..	..	..	..	..	Velvet Beans	..	..	..	..	..	..	..	..	..	..	..	..
Paspalum	..	..	..	..	..	..	..	..	..	..	..	..	Wallaby Grass	..	..	..	..	..	..	..	..	..	..	..	..
Peanuts	..	..	..	..	..	..	..	..	..	..	..	..	(Danthonia)	..	..	..	†	†	†	†	†	†	†	†	†
Peas, Field, for Fodder	..	..	..	..	..	..	..	..	..	..	..	..	Wheat, for Fodder	..	..	..	†	†	†	†	†	†	†	†	†
" " " Soiling	..	..	..	..	..	..	..	..	..	..	..	..	" " Grain	..	..	..	†	†	†	†	†	†	†	†	†

TERMS OF BUSINESS.

CONDITIONS OF SALE AND NON-WARRANTY.

WE believe that all Seeds Bulbs and Roots sold by us are of the description and kind specified by us at the time of sale but owing to the practical impossibility in many cases of being certain of this we give no undertaking that such Seeds Bulbs or Roots will correspond with the description under which they are sold and we make all sales subject to this condition. We further give no warranty expressed or implied as to their growth description quality or productiveness and will not be in any way responsible for the crop. If the purchaser does not accept the goods sold to him on these terms they are at once to be returned to us and any money paid to us will be refunded. **ARTHUR YATES & CO. LTD.**

PRICES.—We do not print prices in this Descriptive Catalogue as values fluctuate and some of our supplies have not been received into store at time of going to press. All charges are set out in our current Price List of Farm Seeds at time of booking order unless specially quoted otherwise. The Price List now current is sent you herewith, and later issues will be posted promptly on receipt of enquiry.

DELIVERY.—We deliver Seeds on rail or wharf Sydney, after which Seeds are on customer's account and at his risk. Orders sent by goods train are consigned carriage forward (except to unattended platforms), unless we are otherwise instructed at time of order. Delivery within the Suburban area of Sydney will be made of Farm Seeds, Seed Potatoes, Manures, and Garden Sundries, at the following charges:—28-lbs. and under, 9d.; 56-lbs. and under, 1/-; 2/- per cwt.

FORWARDING INSTRUCTIONS.—Please give full and careful directions with each order and we will do our utmost to comply with them. When no instructions are received we send according to our judgment.

NATIVE GRASSES

AUSTRALIA'S GREAT HERITAGE

OVER the greater part of our continent climatic conditions are too severe for the successful sowing of introduced grasses. Over that vast area called the Inland Plains the Native Grasses reign supreme because of their amazing hardiness and drought resistance. In addition, our indigenous forage plants are famous for their grazing qualities, in as much as they produce the finest and best wool in the world. The main and most important families of Australian grasses are :—**Panicum** (the Panic Grasses), **Astrebula** (Mitchell Grasses), **Andropogon** (the Blue Grasses), and various **Erianthus** species, which are the dominant species in the summer rainfall region of Northern Australia, and the following :—**Danthonia** (Wallaby Grasses), **Agrostis** (Bent Grasses), **Anthistiria** (Kangaroo Grasses), **Stipa** (the Spear Grasses), **Eragrostis** and **Poa** which predominate in the Southern half, where the main rains fall during the winter.

The purpose of these descriptions is to maintain and if possible increase an interest in native grasses, but it must be understood that supplies are exceedingly irregular. We usually have in stock Wallaby Grass, and at intervals Mitchell Grass and Australian Blue Grass, while of the others mentioned above seed is practically unobtainable. Those interested should write for particulars of varieties available.

For full and interesting information on Native Grasses we would refer readers to Mr. E. Breakwell's book, "The Grasses and Fodder Plants of N.S.W.", which we can supply at 6/- (postage, 4d.)

WALLABY GRASSES

(DANTHONIA SPECIES)

One of the hardiest of our native grasses. Grows in a wide variety of soils and climates. Especially adapted to the poorer soils unsuited to other grasses, splendid for sheep.

Mr. F. Turner in his work, "Australian Grasses," says of this variety :—"It grows both in the coastal districts and in the arid interior; it is one of the most nutritious grasses of Australia, and, unlike most other species of this genus, it will grow more or less all the year round. Stock of all descriptions are remarkably fond of it. The seed germinates readily after showery weather in the autumn and spring months. On good soil the roots of this grass penetrate to a great depth, which enables the plant when growing in the arid interior to withstand long spells of dry weather." The seed is very light, and a small quantity will cover a good breadth of land; we would strongly recommend that two to three pounds per acre should be added to all mixtures for any soil or climate.

MITCHELL GRASS

(ASTREBULA SPECIES)

This is one of the best native grasses we have, and will yield a large amount of succulent herbage, of which stock are very fond. This grass is very nutritious, a good drought resister, and forms a permanent pasture. Requires well-drained land. Quickly responds to rainfall. If cut when it first shows the flower stem, makes excellent hay. Seed is only saved in favourable seasons, and we usually offer both *Astrebula triticoides* and *Astrebula elymoides*. Sow two to three pounds per acre.

AUSTRALIAN BLUE GRASS

(ANDROPOGON SERICEUS)

This perennial grass grows well in the coastal districts and other portions of New South Wales, Victoria and, Queensland. It is a valuable pasture grass, and, in suitable situations, makes considerable growth in the summer, making it doubly valuable to graziers and farmers. It yields an amount of rich, leafy, bottom herbage in the summer months, of which cattle and sheep are very fond and on which they will fatten. An excellent grass, will stand close feeding well, and will continue growing during long periods of dry weather. Sow two to three pounds per acre. Supplies uncertain.

COOLAH GRASS

(PANICUM PROLUTUM)

An erect perennial species, found more or less in most of the Australian States, generally in good situations. It makes its growth during the summer months, stands considerable hot weather, usually keeping green well into the autumn. It thus forms a valuable pasture for our coastal and inland country, though it is not recommended for the tablelands, owing to the severe frosts.

The Department have recently been experimenting with this grass in mixed pastures with considerable success.

No supplies at present.

NATIVE MILLET

(PANICUM DECOMPOSITUM)

Noted for the wonderfully quick growth it makes after rain and the weight of leafage it produces in good seasons, it is considered to be a grass well worth cultivating, and is particularly valuable for the dry conditions met with in inland districts. It is very drought resistant and of perennial character, but makes its growth in the warmer months. No supplies this year.

FLINDERS GRASS

(ISEILEMA MITCHELLI)

Flinders grass is very nutritious and palatable and under average conditions is easily propagated by seed. It is a great fattening grass, makes excellent hay, and even when matured and dried up stock like it and do well on it. It is well worth establishing in our inland districts if not already found in the pastures. It also goes under the names of Barcoo Grass and Landsborough Grass.

ROOT PLANTING

When only limited supplies of seed are available or where it is desired to test the value of grasses, it is worth trying to establish plots for experiment and for propagation by root division (where the nature of the root system permits).

Even if only a small quantity of seed be sown it will, in a rich piece of land, quickly form large clumps and these can be lifted and carefully sub-divided and replanted, say six to nine inches apart, and this course can, if desired, be repeated again and again.

PASTURE GRASSES

THESE five varieties, but especially *Paspalum Dilatatum* and Rhodes Grass, are very extensively used in our dairying districts, while Rhodes Grass will also succeed well in many parts of our Western Country where the elevation is not great. Kikuyu is a comparatively newly introduced grass, and already many uses have been found for it. They should be sown in late spring, summer or early autumn when the weather and soil conditions are favourable for germination and quick growth.

RHODES GRASS

(*CHLORIS GAYANA*)

A very strong growing grass, which, rooting at every joint, soon covers a large area. Excellent for moist situations and hot climates, but succeeds well in a large range of situations and climates, except where heavy frosts are experienced. It is quick germinating after rain, but needs soft moist weather for an ideal "strike," and makes growth rapidly and is very palatable to all stock. When well established it is remarkably drought resistant. It is very largely used for surface sowing after clearing and burning off scrub in the coastal areas, and for this purpose there is nothing better. In some of the inland districts of Queensland Rhodes Grass is proving of the utmost value, and has also been of value in some parts of Western N.S.W., not only in mixed pastures, but as a special grazing crop when planted with Lucerne, say four pounds of Rhodes and two or three pounds of Lucerne per acre. When sown alone six to ten pounds per acre is sufficient if good quality seed is used.

COUCH GRASS

(*CYNODON DACTYLON*)

Stands heat and drought well and is specially suited for dry and sandy spots on the coast, and mild districts of good rainfall where other grasses will not flourish. It is also of great value for binding loose soil, sand banks, etc. It should not be planted near cultivation paddocks, as it is difficult to eradicate. Sow in warm weather after good rains. Sow ten pounds per acre.

In warm climates this grass is very largely used for lawns, making a close, fine turf, and withstanding considerable heat and drought. For this purpose a pound of seed is sufficient for about ten yards square.

PASPALUM DILATATUM

(YATES' PRIME "HAND SHAKEN")

Does well for a few years planted in conjunction with Rhodes Grass in coastal districts after a burn. The seed should be sown during spring, summer, or early autumn, say from August to April. Succeeds best where moist warm conditions prevail, but will prove a very profitable crop even where a moderate rainfall is experienced, and under these latter conditions it is not so likely to become rank and difficult to deal with. Once introduced into swampy land *Paspalum* soon covers it with a thick mat and gives good grazing where the land would otherwise be useless. It is an excellent practice to sow a few pounds of Perennial Red Clover and White Clover with the *Paspalum*, as these provide feed when the latter is more or less dormant. Sow ten to twelve pounds of *Paspalum* per acre. Special quotes for large quantities.

KIKUYU GRASS

(*PENNISETUM CLANDESTINUM*)

We undoubtedly have in Kikuyu a grass of which the quality and capabilities are hardly yet realised by farmers and pastoralists. It is a native of British East Africa and is a perennial grass with a strong system of surface and underground runners. On this account it is a very quick spreading variety and also remarkably drought resistant.

It should succeed and be profitable to grow in almost any part of New South Wales where the rainfall is 20 inches or over. It is of particular value for poor sandy soils where it is usually difficult to grow anything but weeds, though naturally the richer soils will give correspondingly better results.

The underground runners quickly root at the joints then send up fresh growth to a height of 1 ft. or 2 ft. or even more in rich localities.

Under coastal conditions it is the quickest growing grass we have, growth taking place continuously, except where heavy frosts are experienced.

On the slopes it does fairly well, and in Queensland also it is creating widespread interest. It will, we think, be found a useful grass in many parts of Victoria, particularly where *Paspalum* is found.

It does not seed in Australia, therefore it can only be distributed by means of cuttings or rootlets, which we can supply at any time from late winter on. Plantings are usually made during the spring, summer and early autumn months. It is recommended to plow the land, opening up furrows six feet apart, and dropping in the rootlets every three feet. At this rate about 2,500 plants will suffice for one acre. It adds to the value of the pasturage and gives a more balanced ration if some of the clover family can also be introduced, and we suggest $\frac{1}{2}$ lb. White Clover or Subterranean Clover, and in more favoured districts Perennial Red Clover.

For prices, see Current Price List.

Approximate cost of Postage and Packing—Per 100, 1s.; per 50, 9d.

PASPALUM COMPRESSUM

(Also known as Dorrington Grass or Carpet Grass)

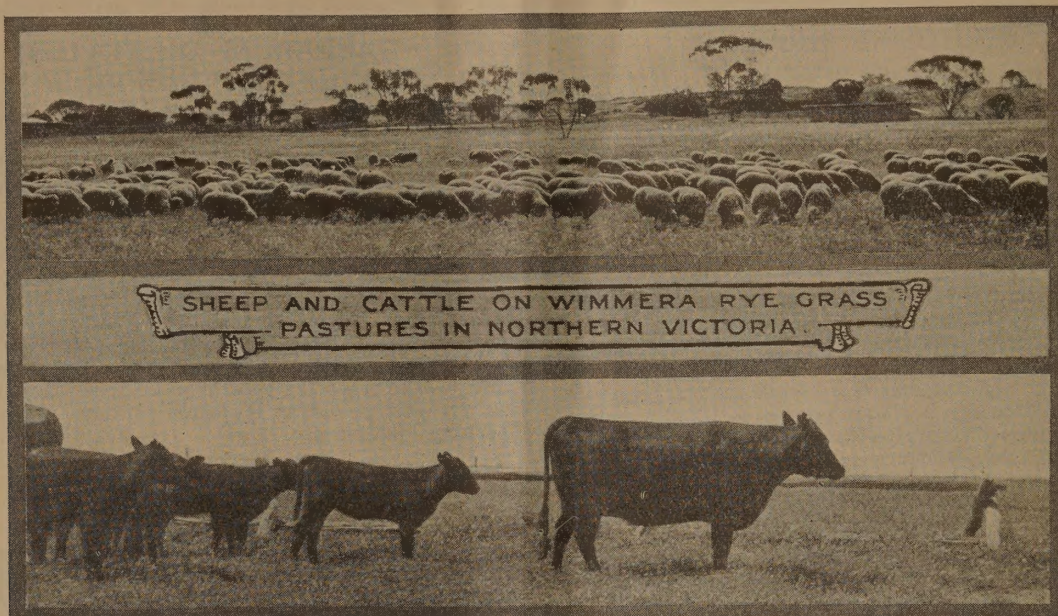
A dwarf compact growing variety of *Paspalum*, proving of great value for poor sandy stretches of country where *Paspalum Dilatatum* does not do well: makes well matted roots and is suited for warm coastal climates. Sow five pounds per acre.



Paspalum Dilatatum showing strong roots & prolific seed head.

PASTURE GRASSES (Continued)

THE varieties in the following list are all grasses which have proved to have a distinct value in the temperate parts of Australia with a good average rainfall. They can be recommended for the New South Wales coast and tablelands, and for districts with similar climatic conditions in other States. Autumn is the best time for sowing these varieties, but sowings may also be made in the spring in suitable situations if the weather be favourable. Elephant Grass cuttings can be put out with advantage from early spring onwards.



WIMMERA RYE GRASS (*LOLIUM SUBULATUM*)

An annual species of the Rye Grass family which is exceedingly hardy and drought-resistant and is proving of the utmost value to Australian agriculture.

A comparatively new grass, it is being used with great success over a large portion of the wheat area of Southern and South-Western N.S.W., and some parts of Victoria. It has also done well on the tableland and coastal country of N.S.W., and as far west as Trangie and Coonamble. In many ways it is similar to Italian Rye Grass, the main difference being its great drought resistance. It is an annual and will provide green feed for seven to eight months in the colder part of the year, after which, although it dries off, it is very nutritious as dry hay, the seeds remaining attached to the dry straw for a long period. After the first sowing it will seed itself down every year, even though the land be cultivated for crop, and start away again with the first good autumnal rains. In good seasons the grass makes excellent hay of high value, which keeps well and is not readily attacked by mice or other vermin. The seed is free from any burrs or spines, and pastures of this grass are extremely valuable to carry the sheep while the injurious grass seeds are ripening in natural pastures.

We do not recommend sowing this on first-class wheat land which is regularly cropped, as it may interfere with the growth and be a little difficult to control. But on land of lighter type which requires periodical rests from cropping, or on lands which have been completely exhausted by continuous cropping, we confidently recommend it as a pasture grass of the very highest value. On this type of land it should be properly eradicated, before the next wheat crop is sown, by close feeding off before it seeds and working of the fallow to sprout seeds lying in the soil, which stock will quickly clean up. Sowing alone from six to fifteen pounds per acre should be used according to the district, or, if sown with the crop to provide pasturage on land which it is proposed to spell when the crop is off, as low as four pounds will probably be enough. If more is sown it may interfere with the growth of the crop.

For districts with good winter rainfall a paddock of Wimmera Rye Grass and Subterranean Clover mixed makes an excellent pasture.

It is practically impossible to identify seed of Wimmera Rye Grass in comparison with that of the well known Italian and Perennial Rye Grasses, which are, of course, of much less monetary value and of no use in the hot districts where Wimmera is so successful. Therefore we strongly urge farmers to buy their supplies from a reputable and reliable seed house and not to risk being disappointed with inferior seed.

PERENNIAL RYE GRASS (*LOLIUM PERENNE*)

On those parts of our coastal and tableland country, where a high and regular rainfall may be looked for, this is one of the very best of the introduced grasses, and is a specially good winter grass for the dairy farmer. In suitable localities it is practically permanent, but best results are obtained with this, as with all artificial grasses, by re-sowing at intervals of, say, five to ten years. Sow one and a-half to two bushels per acre if used alone. A small proportion should be used in most mixtures for coastal and tableland climates.

Yates' A.Y. Old Pasture Perennial.—This is a very fine perennial variety of the same type and quality as that hitherto offered as Poverty Bay Rye Grass, which was a variety originated by us many years ago. But owing to misrepresentation and substitution in connection with the use of this name we have deemed it advisable to change to the above descriptive name. The seed offered under this brand is saved in a dry climate from true perennial type pastures and therefore more hardy and long lasting under Australian conditions than most of the Perennial Rye Grass generally sold, which is saved in cool wet districts. All the seed we offer is carefully tested, heavily re-machined and is of high percentage of germination and purity.

Yates' Re-machined Perennial.—This is the next best long lasting strain and is superior in this respect and in weight of seed to a great deal of the Rye Grass offered.

PASTURE GRASSES (Continued)

ITALIAN RYE GRASS (*LOLIUM ITALICUM*)

This grass is only a biennial, but if not grazed too closely and is allowed to seed itself (which it does in the second year), it will last for several years. It is of great value as a hay crop sown alone; with clovers or with grain, sow up to two bushels per acre.

Yates' Extra Heavy Re-machined Italian.—This is a first-class strain, thoroughly re-cleaned, of the ordinary Italian, and has given excellent results wherever grown.

Western Wolths Italian (*WESTERWOLDICUM*).—A selected strain of Italian Rye Grass, early, hardy and vigorous.

PHALARIS BULBOSA

For several years the supply of this most valuable grass has been insufficient to meet the demand, but for this season we have made special arrangements and hope to have ample supplies throughout the season.

Each year Phalaris Bulbosa is required in greater quantity as its merits become better known to farmers and graziers. It is considered by many to be superior to Rye Grass and Cocksfoot for our average Tableland conditions. It has a particular value in its ability to withstand hard, cold conditions; in fact, it makes wonderful growth in the winter months. It is a grass we particularly recommend for the tableland country of N.S.W. and for similar conditions in other States. It is succulent, palatable, and a strong grower. It is deep-rooting, and, when once established, is drought-resistant, and forms a splendid permanent pasture which stands hard grazing and is excellent for sheep. When judiciously grazed it forms a close turf.

Perhaps nowhere else in the State has such interest been taken in pasture improvement as on the Northern Tablelands north of Armidale, and practically the whole district is unanimous concerning the merits of Phalaris Bulbosa as an all-the-year-round pasture grass for their conditions. In grazing trials conducted by the Department of Agriculture at Glen Innes Experiment Farm during four years this wonderful grass has carried two and a quarter sheep per acre continuously and without any spells; and, further, these sheep grew much better and put on more weight than those on the native pasture carrying only one sheep per acre; the latter sheep also had access to stubble and fodder crop residues.

This grass also makes good hay if cut as soon as the flower heads are forming. About 5lbs. per acre is a reasonable sowing, and we suggest that about 2lbs. per acre of White Clover or $\frac{1}{2}$ lb. to 1lb. per acre of Subterranean Clover be included either with Phalaris alone or with Phalaris and other grasses in mixture.

COCKSFOOT (*DACTYLIS GLOMERATA*)

One of the hardiest of the perennial grasses and one of the most useful. I should be included in all grass mixtures used in the coastal and tableland districts of New South Wales, and in other parts of the Commonwealth of fair average rainfall evenly distributed throughout the year. Being one of the hardiest of the perennial grasses, it is very useful for sowing on hill country and second quality ridges it also has a large carrying capacity on good soil. It is inclined to grow tussocky, but judicious grazing and occasionally allowing it to seed itself down will counteract this. Two to eight pounds per acre should be included in grass mixtures.

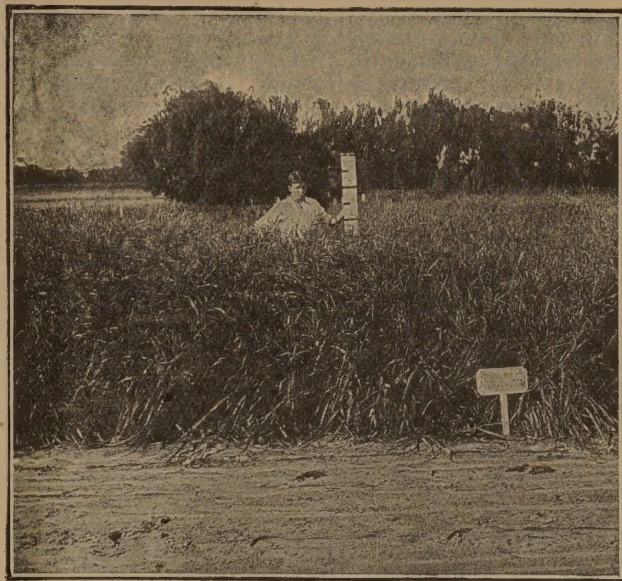
Our seed is heavy and thoroughly machine-cleaned and will give a good germination and a quick and even catch.

PRAIRIE GRASS (*BROMUS UNIOLOIDES*)

This is a most valuable grass, particularly for the dairyman. It gives wonderful yields of fodder in suitable country, and cows milk splendidly on it. It is a first-class pasture grass and grows luxuriantly during the winter, providing feed when badly needed, and does best in rather loose, rich soils. If, in such soils, it is heavily stocked for a short period and grazed off and then allowed to come away into vigorous growth before being again fed off, it will prove for grazing almost as valuable as a crop of oats, with the advantage that it will last for several years without re-sowing. On soils liable to be tramped very hard and which remain in this set condition it will not respond to this treatment so well. To maintain a good covering it should be allowed to seed itself down at the end of each growing season. It is as well to use a little in pasture mixtures to give a good body of feed while the Perennial Grasses are establishing themselves.

Sow twenty to forty pounds per acre if used alone. When used in mixtures, use one to three pounds per acre.

Yates' Finest Bright Re-machined.—A heavy grade plump seed of a very high percentage of germination and purity.



Demonstrating the heavy growth of Phalaris Bulbosa, at Hawkesbury Agricultural College.

TALL OAT GRASS (*AVENA ELATIOR*)

In trials in our Northern Tableland districts this grass has proved very successful, and it is thought that it will become one of our leading artificial grasses. It has a deep rooting system, which protects it against drought, and it quickly spreads when once established. It is a good winter grass and a quick grower. Stock may at first be averse to it, but when used to it eat it readily, especially if sown in mixture with other grasses. Customers are recommended to try this grass in land which is rather light in character for other artificial grasses, and we would be pleased to have reports after testing.

It withstands heat of summer and the cold of winter, starts very early in spring and continues to give good grazing over a long period. It has been grown successfully in the Departments Trials in Coastal and Tableland district. It is best included in mixture with other grasses at the rate of from one to three pounds per acre.

PASTURE GRASSES (Continued)

TALL FESCUE

(FESTUCA ELATOIR)

A strong growing coarse grass and is now considered to be a distinctly valuable one. While it may not have quite the feeding value of some of the finer grasses, it is extremely hardy, withstands drought well, is adaptable to nearly all classes of soils, and if kept fed down, is quite palatable. It keeps green when other grasses are dried up, and thus gives that valuable green pick which helps to keep stock healthy. We would recommend a proportion of this in all mixtures to be sown on any land except low, moist flats. In the wet districts of New Zealand, Tall Fescue takes Ergot very badly which causes sickness and abortion in cattle. This trouble has not occurred in the drier climate of this country, but we would suggest that it should not be sown anywhere near swamps.

CHEWING FESCUE

(FESTUCA RUBRA VAR.)

This grass has been grown in New Zealand with success on poor, light, as well as heavier lands; it has formed a good sward where no other grass would succeed. It is permanent, and throws up a useful amount of feed in the early spring, particularly good for sheep. We would recommend that a little of this grass be included in all mixtures for permanent pasture in coastal or tableland districts, or, if planted alone, allow fifteen pounds per acre

MEADOW FESCUE

(FESTUCA PRATENSIS)

An excellent perennial grass for districts with fairly regular rainfall, and much relished by all stock. This grass has given good results under observation in many districts, and should be included in all grass mixtures for districts with good rainfall where long dry spells are unusual.

FESCUE (Fine Leaved)

(FESTUCA OVINA TENUIFOLIA)

This grass is not recommended as a pasture grass, but is excellent for lawn purposes, giving a very fine even sward.

AWNLESS BROME GRASS

(BROMUS INERMIS)

A useful pasture grass which has not been obtainable recently. It is a perennial grass with root creeping habit, a native of dry regions in Europe and Asia. In America, and particularly California, it is looked on as a hardy grass. As good germinating seed of this grass is unobtainable in commercial quantities, we will not be able to supply until further notice.

KENTUCKY BLUE GRASS

(POA PRATENSIS)

One of the best winter grasses for tableland districts with a good rainfall, yielding a quantity of fine feed in the autumn, winter and early spring. It dies right down in the summer, but soon springs again after rain. It has a creeping habit, resembling Couch, and, if once introduced, will become a permanency. The celebrated Blue Grass regions of America, so noted for their horses, take their name from this grass, which forms the bulk of the pastures there. As this grass is very delicate, and easily burnt up while in its younger stage, we recommend that it be sown in the early autumn only.

AGROSTIS SPECIES

These grasses are used fairly largely for lawns, golf greens, etc., and are commonly known as Bent Grasses. Their value for pasturage is low, except in cold, harsh situations. We stock—A. canina (Brown Top or Rhode Island Bent); A. vulgaris (Red Top).

CANADIAN BLUE GRASS

(POA COMPRESSA)

Unlike Kentucky Blue Grass, this grass does not creep to any extent, is more leafy, and is a distinct bluish green, while the former is a dark green. It has in experiments shown much greater drought-resisting properties than Kentucky Blue Grass, and will grow on much poorer soils. It germinates very well, will stand a deal of trampling from stock, and would seem to be useful for the tablelands where there is a reasonable rainfall. No supplies this autumn.

TEFF GRASS

(ERAGROSTIS ABYSSINICA)

An annual summer growing grass in very great favour in South Africa, especially where summer rains are prevalent. It must be re-sown every year like Sudan grass, but we regard the latter as much more suited to Australian conditions.

ELEPHANT GRASS

(PENNISSETUM PURPUREUM)

Although not strictly speaking a pasture grass, this recent introduction has proved to be a valuable acquisition and a fodder plant of considerable value. It will be noted from the photograph, reproduced herewith, that this is a vigorous growing plant, attaining a height of 12 to 15 feet. It stands cutting well, tests made by the Department of Agriculture showing a return of 50 tons and more of green fodder per acre per year, and also that this grass is of good feeding quality and that stock relish it, but it must not be allowed to get too high and coarse. It may be either grazed or cut, and shows a very satisfactory food value by analysis. Milk yield and tests are well maintained. Elephant grass is a summer grass and gives good results, even if only on poor land. The cuttings should be planted three feet apart in and between the rows.

For prices, see Current Price List. Approximate cost of postage and packing on cuttings—Per 100, 2/9; per 50, 1/9; per 25, 1/3; per 12, 9d.

WATER MEADOW GRASS

(POA AQUATICA)

This is used rather extensively on marshy land, and swamps in Gippsland. The plant is fairly nutritious, but rather coarse. We can usually supply root stocks.

OTHER GRASSES

We also stock the following, which, however, are of minor importance except for special situations or purposes:—Timothy, Poa trivialis, Poa nemoralis, Meadow Fox Tail, Crested Dog's Tail, Yorkshire Fog, Rib Grass or Lamb's Tongue (not a member of the grass family).

SHEEPS BURNET

A useful sheep fodder, very often sown with pasture grasses. For full description, see page 16.

Grass Seed Mixtures

FOR BETTER PASTURES

THE following table of Grass Seed Mixtures has been drawn up by the Agrostologist of the Agricultural Department of New South Wales as recommended for the different parts of the State. All interested in Pasture Improvement are indebted to the Agrostologist's Branch of the N.S.W. Dept. of Agriculture for the research work carried out by them with Pastures Grasses, and for valuable knowledge afforded by their trials of the behaviour of the different grasses under our N.S.W. conditions.

In their work of distributing information and suggestions as to Pasture Improvements we are glad to co-operate, and with our long connection with the grass seed business and the information gained from experiences of our customers throughout the country, we are able to make recommendations and offer specifications specially drawn up for customers' particular requirements, or to give advice on their grass seed problems. This table is published as a guide to help those interested to work out a pasture mixture for their particular requirements and should prove valuable not only to land-holders of New South Wales, but to the whole Commonwealth, as these Grass Seed Mixtures should do well anywhere where the climate is somewhat similar to the different parts of New South Wales. We shall always be glad to go into further particulars with any farmer who has any grass seed problems, and to recommend pastures for his own particular conditions. In soils of fair quality or where preparation of the land for sowing has been good heavier sowings can be made with advantage.

All the following mixtures, except those containing Paspalum and Rhodes Grass, are best sown after the first good autumn rains, and plans should be formed well in advance so that the land can be thoroughly prepared. Please refer to the mixtures by number (viz., "N.C.C. 3" or "S.C. 2").

SOWING GRASS SEED.—Wherever possible, the seed should be sown with the wheat drill, mixing the seed with superphosphate ($\frac{1}{2}$ to 1 cwt. per acre), just prior to sowing. The hoes or discs of the drill should be set to run on the surface of the ground, as the seed only requires to be lightly covered; run a harrow at right angles to the direction of the drilling if the seed has not been well covered by the drill.

Where it is impossible to use implements for sowing and covering, the seed should be broadcasted in and around stump holes, dug-out rabbit burrows, among fallen timber

or any other suitable cover, in which it will be held, and later germinate.

When sowing mixtures of light and heavy seed, only small lots should be mixed at one time, and the seed should be kept well stirred while distributing.

Where very small quantities per acre are being sown it will be found easier to do so by sowing half the seed first at half the rate per acre thus going over the land twice.

By this means errors made in the first operation may be rectified the second time over.

For NORTH COAST and CENTRAL COAST

N.C.C. 1

12 lbs. Paspalum Dilatatum
4 " White Clover

16 lbs.

N.C.C. 2

5 lbs. Rhodes Grass
2 " Lucerne

7 lbs.

N.C.C. 3

Renovations of Paspalum—Plough,
Harrow, then sow as under:

2 lbs. Tall Fescue
2 " Italian Ryegrass
2 " Perennial Ryegrass
2 " Wimmera Ryegrass
2 " Cocksfoot
1 " Phalaris
1 " White Clover
1 " Subterranean Clover
1 " Perennial Red Clover
1 " Lucerne
1 " Sheeps Burnet

16 lbs.

N.C.C. 4

Renovation of Paspalum.—Where
unable to plough, broadcast and
harrow in the following:

3 lbs. Wimmera Ryegrass
2 " Italian Ryegrass
2 " Perennial Ryegrass
2 " Subterranean Clover
1 " White Clover
2 " Sheeps Burnet

12 lbs.

C.C. 5

The following mixture is suitable
for the Central Coast only:

3 lbs. Phalaris Bulbosa
6 " Perennial Ryegrass
2 " Wimmera Ryegrass
2 " Perennial Red Clover
2 " Subterranean Clover

15 lbs.

N.C.C. 6 (Heath Country)

6 lbs. Paspalum Compressum

For SOUTH COAST

S.C. 1

12 lbs. Paspalum Dilatatum
4 " White Clover

16 lbs.

S.C. 2

3 lbs. Phalaris Bulbosa
4 " Wimmera Ryegrass
4 " Tall Oat Grass
2 " Cow Grass (Red Clover)
1 " Subterranean Clover
1 " White Clover

15 lbs.

S.C. 3

4 lbs. Cocksfoot
4 " Tall Fescue
8 " Perennial Ryegrass
2 " Perennial Red Clover
1 " Subterranean Clover
1 " White Clover

20 lbs.

For NEW ENGLAND and NORTHERN TABLELAND

N.T. 1 (Black Soil)

4 lbs. Phalaris
2 " Cow Grass (Red Clover)

6 lbs.

N.T. 2 (Red Soil)

2 lbs. Tall Oat
4 " Tall Fescue
6 " Cocksfoot
2 " Cow Grass (Red Clover)

14 lbs.

N.T. 3 (Black Soil)

2 lbs. Phalaris
10 " Perennial Ryegrass
3 " Cow Grass

15 lbs.

N.T. 4 (Poor quality Ridges)

2 lbs. Tall Fescue
4 " Wimmera Ryegrass
4 " Cocksfoot
2 " Sheeps Burnet
1 " Subterranean Clover

13 lbs.

N.T. 5

Old Potato Land to be rested
3-4 years:
10 lbs. Perennial Ryegrass
2 " Cow Grass

12 lbs.

For CENTRAL TABLELANDS

C.T. 1

4 lbs. Phalaris Bulbosa
2 " Lucerne

6 lbs.

C.T. 2

6 lbs. Tall Fescue
6 " Cocksfoot
2 " Lucerne

14 lbs.

C.T. 3

2 lbs. Tall Oat Grass
4 " Wimmera Ryegrass
1 " Lucerne
1 " Subterranean Clover

8 lbs.

For SOUTHERN TABLELANDS

S.T. 1

4 lbs. Phalaris Bulbosa
2 " Lucerne

6 lbs.

S.T. 2

6 lbs. Tall Fescue
2 " Cocksfoot
2 " Lucerne

10 lbs.

S.T. 3

2 lbs. Tall Oat Grass
4 " Wimmera Ryegrass
1 " Lucerne
1 " Subterranean Clover

8 lbs.

S.T. 4

6 lbs. Perennial Ryegrass
4 " Cocksfoot
2 " Sheeps Burnet
3 " Cow Grass

15 lbs.

For SLOPES

S. 1

3 lbs. Lucerne
3 " Wimmera Ryegrass

6 lbs.

S. 2

2 lbs. Subterranean Clover
3 " Wimmera Ryegrass

5 lbs.

For PLAINS SOUTH

P. 1

3 lbs. Lucerne
3 " Wimmera

6 lbs.

NORTH & WEST

P. 2

3 lbs. Wimmera Ryegrass
3 " Lucerne

6 lbs.

P. 3

Where Lucerne will not thrive
6 lbs. Wimmera

6 lbs.

P. 4

Save and sow Seed of best
Native Grasses

CLOVERS

THE Clovers are a wonderful family of plants and supply a great need in Australian pastures, namely—Winter and Early Spring Feed. In addition, their high protein content makes them good flesh builders rather than fatteners, they make excellent hay and are particularly valuable as soil renovators.

Farmers, especially those in areas where a fair rainfall is experienced, are realising more and more the great value of the Clovers, as Soil-renovators, as well as fodder crops of the highest quality, either alone, in pasture, or sown with other green stuff or hay crops.

For renovating worn-out land, and for keeping valuable farming land in proper condition, nothing will do more good than the Clover family (or, if preferred, other Legumes, such as Field Peas, Field Lupins and Soy Beans, and in warm climates Cow Peas). When ploughed in they add a most valuable manure in the form of nitrogen, which is gathered from the atmosphere. When the crop is ploughed in the nitrogen is made available, while the foliage, stems and roots, form necessary "humus," which gives "life" to the land. For the efficient growth of all legumes an ample supply of phosphates is essential. Soils deficient in this element should be treated with "super." or other phosphatic manure.

The addition of one or other of the Clovers, when laying down pastures or sowing greenstuff or hay crops, will provide a much better balanced ration of which stock are very fond; and when the crop is done the Clover will often give a good picking for a considerable period, afterwards being ploughed in for green manure.

Clovers succeed best in good "sweet" land and usually respond well to superphosphate. Sow 12lbs. to 15lbs. per acre alone, or if with pasture grasses 2lbs. to 3lbs. per acre.

Generally speaking, Clovers should be sown in the autumn, but in good seasons successful results can be obtained from spring sowing in coastal and tableland districts.

YATES' A.Y. SUPERFINE WHITE CLOVER

(TRIFOLIUM REPENS)

This is used perhaps more than any other for sowing down with Pasture Grasses. It spreads quickly, especially in moist situations. Widely used on the North Coast of N.S.W. in Paspalum and Rhodes Grass Pastures, giving a splendid pick during the winter when these two grasses are more or less dormant. Succeeds in a wide variety of soils and climates.

Though in dry years it will thin out and perhaps almost disappear, the first good spring will bring an enormous growth, as the seeds remain in the ground until the necessary moisture occurs for its germination. We do not recommend this clover for the comparatively drier parts of the State.

YATES' SUPERFINE PERENNIAL RED CLOVER or COW GRASS

(TRIFOLIUM PRATENSE PERENNE)

Increased interest is now being taken in this Clover as it is now found that it will do well in almost any district of good rainfall. It is a vigorous grower and is splendid for milk production. When sown with oats which are used for grazing it comes away strongly in the spring and keeps up the flow of milk as the oats gradually ripen off. It is not as perennial as White Clover, but will make an excellent pasture for two or three years, and for some time will give a much larger yield than White Clover. From one to two pounds per acre should be included in grass mixtures. When sown with oats use two to three pounds per acre. Planting alone use ten pounds per acre.

TRIFOLIUM INCARNATUM (or Crimson Clover)

This is an annual, a quick grower, and useful as a rotation crop. It is not so useful as it might be for a grazing proposition on account of its hairiness. Stock do not readily take to it on this account. It is mostly used as a rotation crop in cattle and dairying districts.

BERSEEM (or Egyptian Clover)

(TRIFOLIUM ALEXANDRINUM)

An annual Clover suited to the more temperate districts, which must be sown in early autumn, as it makes its growth during the autumn, winter and early spring months. Sown in early autumn in a favourable locality, it will give two and even three cuttings of valuable Lucerne-like greenstuff during the winter and early spring. It can also be sown in the autumn with oats, and after being grazed for a time it can be cut in the spring with the oats for hay.

STRAWBERRY CLOVER

(TRIFOLIUM FRAGIFERUM)

An excellent variety for low, wet, swampy land subject to floods or inundations through the backing up of tide water. This plant has a trailing habit, and thrives where no other Clovers and very few Grasses will grow; in our opinion, it should be associated with Water Couch. If one pound or so per acre is sown in suitable situations it will very soon spread. It is very largely grown in portions of Gippsland, where the land is swampy, and is found to be very fattening. Cattle do particularly well on it.



Three weeks after previous cutting, showing the quick growth obtained in rich soil and with favorable weather.



A Rich, nutritious and well balanced Pasture of Yates' Superfine White Clover growing with Grasses.

BOKHARA CLOVER (*MELILOTUS ALBA*). (or White Sweet Clover)

This is a Clover with a big reputation in America for renovating land for green manuring and for preparing land for the introduction of lucerne. The plant makes very big root growth and, being a biennial, it dies out after the second year and the big root growth rots down very quickly.

Bokhara can be grazed profitably by all classes of stock, the fodder value, by analysis, being extremely high. There is practically no danger of bloat with this Clover, but it is likely to taint milk. It is also an excellent honey plant.

If used as a rotation crop it can be ploughed in either the first or second year according to circumstances. Seeding does not take place until the second year, and so long as this is prevented there is no danger of the plant getting out of control.

This plant should not be grown in wheat paddocks, as the seed will taint flour. Sow 8 lbs. to 10 lbs. per acre broadcast, or 5 lbs. in drills.

BURR or "NATIVE" TREFOIL (*MEDICAGO DENTICULATA*)

This is an introduced member of the Clover family but has become so widespread that it has earned the title of "Native." It is now one of the commonest plants in N.S.W., and furnishes a tremendous amount of feed. It grows with the first good autumn rains, giving a heavy yield of lush green fodder throughout the winter and spring. With the approach of summer the plant ripens off and the seed, falling on the ground, then forms a most valuable and highly concentrated food. This the sheep will lick up from the ground and thrive on. Country that grows this Trefoil is essentially fattening country. The burrs however, are a great disadvantage in purely wool growing country.

BURRLESS or BUTTON TREFOIL (*MEDICAGO ORBICULARIS*).

This is a variety of Trefoil Clover which has attracted attention in Tamworth and other Northern districts. It is very similar in its growth and appearance to our Native Trefoil or Burr Clover, but the seed is not enclosed in a burr; this is manifestly a great advantage to wool growers. However, the plant is not as hardy or as prolific as the well known Burr Clover. It is an annual, but seeds itself so profusely that it comes up every spring, and is permanent when once introduced.

ALSYKE (*TRIFOLIUM HYBRIDUM*)

Combines to some extent the qualities of the Red Clover and White Clover. It produces more forage than White Clover, but will not stand as much drought as Red Clover. The seed being very small about half the quantity is required for the same area as of Red Clover.

ENGLISH TREFOIL (*MEDICAGO LUPULINA*)

An annual Clover succeeding in light dry soils, greedily eaten by sheep. It has good bold seed and is a very useful plant in tableland pastures.

LOTUS (Varieties)

LOTUS CORNICULATUS (*BIRDSFOOT TREFOIL*)—A deep rooting perennial Clover maturing the second year, and producing a large quantity of leafage.

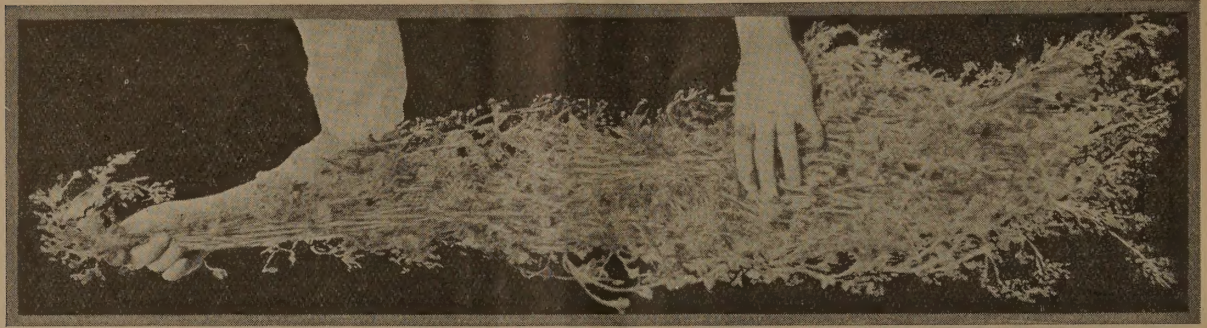
LOTUS MAJOR.—Land that requires draining can often be improved with this Clover.

LOTUS ANGUSTISSIMUS—A hardy Clover which does well in rough country and should be very suitable for sowing on burns

For Prices write for Yates' Current Price List.

Subterranean Clover (Trifolium subterraneum)

Order Jan.-Feb. for sowing with the first good Autumn rains.



A 5ft. growth of Subterranean Clover after a warm, moist spring.

This wonderful Clover has long been known in Southern European countries, where it is looked on as being of very limited usefulness. The credit for introducing it and proving its value in the Commonwealth belongs to South Australian farmers, who have been working on it for some 45 years.

Briefly, the plant may be described as a prostrate growing annual, which is covered all over with fairly long, soft hairs. The flowers are formed in clusters of three or four and are creamy to pinkish color. Immediately after flowering the flower clusters grow downwards until the seed-head is pushed below the surface of the soil, where it becomes "anchored". It is from this peculiar habit that this clover derives its name Subterranean.

The growing period in favorable districts is six months or more, the seeds germinating with the first good autumn rains in April-May. During the winter the plants make slow but steady progress, but with the first warm touch of spring they burst into rapid luxuriant growth, which continues until really hot weather starts.

This Clover seems able to adapt itself to almost all types of soil with suitable Autumn and Winter rainfall conditions and a plentiful supply of phosphoric acid.

We cannot stress too greatly the importance of phosphatic manures in connection with this Clover, and in our opinion no commercial crop responds so readily to liberal applications of such manures. Fertilisers for this crop should be applied in June-July.

The seed should be sown after the first autumn rains which are sufficiently heavy to germinate them. To establish Subterranean Clover properly the first year, from three to four pounds per acre should be sown if the land has been thoroughly prepared, and even more can be used if the soil is very rich. On lighter land and where it is to be sown with cereal crop, about two lbs. will probably be sufficient.

We are convinced that Subterranean Clover will play a most important part in farming practice in a great many parts of this State. Where soil and seasonable conditions are favorable this Clover will produce more high-class fodder than almost any other plant.

Being a legume it is of great value as a soil improver and for this reason, and for the reason that it flourishes under such varying conditions, we believe that it will be sown on a large area of second-class land to the great benefit of the soil, and resulting in bigger returns to the land holder.

Another quality which should not be overlooked is its propensity for choking out undesirable weed growth.

Particularly is this noticeable in suitable districts in the case of sour, sorrel growing country, it being amply proved that Subterranean Clover, in conjunction with a liberal dressing of phosphatic manure, will greatly assist

in crowding out this and similar weeds and provide in their stead a pasture which it would be hard to better.

It is exceedingly nutritious in any form, either green, or as hay, or as dry feed in a paddock. It produces enormous quantities of seed which are relished and picked up by stock just as they do the seed of ordinary burr trefoil. One of the greatest advantages of this clover over the ordinary burr trefoil, from a sheepman's point of view, is that the seed is not enclosed in a hooked burr and will not become attached to wool.

When sowing down pasture mixtures it is undoubtedly good policy to include some of this clover, say half to one pound. It should do well in this State in all parts of our coast and tablelands, and parts of the slopes where the rainfall exceeds twenty inches per annum, and is fairly regular in autumn, winter and spring.



A young plant of Subterranean Clover, showing the vigorous crown and sturdy root system.

LUCERNE THE KING OF FODDER AND GRAZING CROPS

"The Crop that gives a continual harvest without an annual ploughing or seeding."

IT IS A FACT worthy of note that Lucerne has been cultivated by man for over 2,000 years.

This in itself shows the great value and usefulness of this hardy, long-lived perennial forage plant. As evidence of its adaptability it is now grown more or less extensively in every continent of the globe.

In our own country Lucerne has already become one of the foremost of our fodder and grazing crops. Each year the area under Lucerne is increased by tens of thousands of acres, and this increase is undoubtedly due to a now wider spread knowledge of its adaptability to varying situations, soils and climates.

For many years it was considered that Lucerne would not succeed unless sown on choice alluvial flats, but recent experience has shown this to be a fallacy, and that its restricted use in many districts was due to incomplete knowledge.

The point we would emphasise here is that the "range of adaptability" of Lucerne, once considered limited to rich alluvial flats, has now been proved to include any deep reasonably good agricultural land with a rainfall of at least twenty inches. On such areas good "grazing" Lucerne can be successfully grown, making the land capable of carrying a much heavier stocking, and affording a wonder-

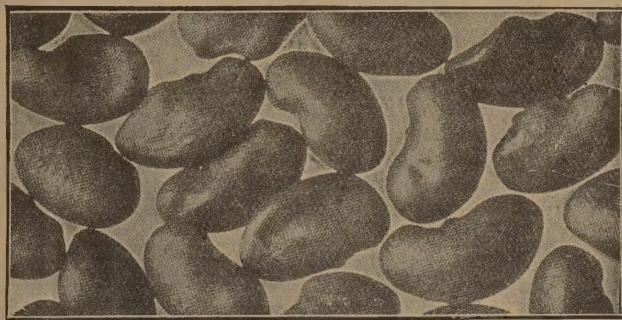
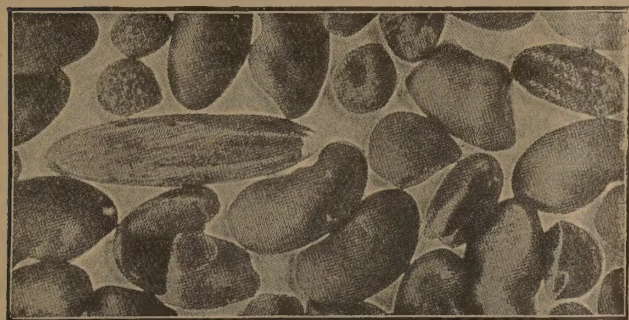
fully quick "shoot" after rain. Under suitable conditions in clean land, and where our best Re-cleaned YATES' ^{BROADLEAF} ^{AY} ^{GIANT-UPRIGHT} LUCERNE has been planted, it will yield continuously, for an indefinite number of years. It is one continual harvest without an annual ploughing or seeding.

For many years we have made a great speciality of our Lucerne seed, and amongst keen, discriminating farmers our standard of quality, signified by the name, YATES' ^{BROADLEAF} ^{AY} ^{GIANT-UPRIGHT} LUCERNE has become a tradition. Do not forget that when you sow Lucerne seed you are putting down a crop which you hope will yield you returns for several years. Is it not then good policy to do everything in your power to make it a success? With this ideal in mind, work your land well to obtain a fine, firm, clean seeded-bed, and—this is just as important—use the BEST SEED OBTAINABLE.

Land that you intend putting under Lucerne should be fallowed long before sowing time, and kept well worked in order to eradicate weeds and to obtain a fine tilth.

Lucerne seed, on account of its small size, requires a fine compacted seed-bed in order that the roots may get a grip of the soil particles. In addition, the seed should be shallow in the ground, the lightest possible covering being all that is necessary.

THE DIFFERENCE !



The enlarged illustrations above show (on the right) the type of large well-filled seed of Yates' A.Y. Broadleaf Giant Upright Lucerne, and (on the left) a representative sample of ordinary rough-dressed Lucerne seed. Compare the plump well-filled grains and the freedom from weed seeds of the former with the sample of rough-dressed seed, and it will be readily seen that it pays to sow only Re-cleaned and Tested Seeds.

YATES' ^{BROADLEAF} ^{AY} ^{GIANT-UPRIGHT} LUCERNE

YATES' ^{BROADLEAF} ^{AY} ^{GIANT-UPRIGHT} LUCERNE in sealed bags is re-machined and tested seed of extra prime quality of a superior type of N.S.W. grown Lucerne, which is saved on selected farms in those districts in which, owing to special natural conditions, there has been evolved a long-standing, drought-resisting strain, which has proved itself for Australian conditions.

Most of these farms have supplied the seed crop to us for many years past, and we know that it is of the true Broadleaf Giant Upright pedigree.

YATES' ^{BROADLEAF} ^{AY} ^{GIANT-UPRIGHT} LUCERNE is supplied through our country agents in 25 lb. and 50 lb. net sealed bags, printed with our own brand, or will be supplied direct to farmers in whatever quantities required. Growers should exercise caution, and accept only packages closed with our metal seal, and branded as above.

WRITE FOR PRICES, STATING QUANTITY REQUIRED.

Sixteen to twenty pounds per acre is a fair sowing for ideal situations with moist subsoil if sown broadcast ; or ten to twelve pounds if drilled. In dry areas as low as six pounds is found sufficient.

SOWING RAPE

Yates' "A.Y." Broadleaf Dwarf Essex

Sowing Rape is one of the most profitable stock fodders for fattening. In addition, it is a very useful rotation crop and soil renovator on account of its vigorous deep rooting habit, which penetrates subsoils to a considerable depth.

RAPE is the great fodder plant for sheep husbandry in Australia, and with the widespread recognition of the value of combining sheep and wheat, Rape is now becoming a very important crop on the wheat farm, not only for sheep feed, but also a rotation crop and for renovating wheat land. The cost of the seed is so little, and the cultivation so simple, that it cannot fail to be much more largely used.

If paddocks which are showing signs of exhaustion under wheat, are ploughed and a crop of Rape sown, say early in March, it will give an enormous quantity of sheep feed during the winter and following spring, which will fatten ten or twelve sheep to the acre for some months, and if during the following summer the remains of the crop and sheep droppings are ploughed in, the land will be very much enriched, and if sown with wheat again, a greatly increased yield will result. The roots of the Rape tend to break up and enliven the soil just below plough depth and this greatly renovates the paddock. It is easy to see how profitable it is to utilise the land in this way. Even if owing to unfavorable seasons, the crop of Rape comes to nothing, there is very little lost, as the cost of seed is so little. Rape is equally good for pig feeding or even cattle, so long as it is not given in quantity to milking cows, as it is apt to taste the milk.

Where large breadths of land are not available, there are often paddocks about a homestead which will give enormous yields of fodder if sown with Rape, and which would be particularly valuable for feeding stock during the scarce season; they all eat it greedily.

Sheep put on to Rape fatten very quickly; even old broken-mouthed ewes, that would starve on an ordinary pasture, very soon put on flesh, and are fit for the butcher.

They should however, be sent to market as soon as they are "topped off" as if put back on the grass they very soon lose condition again. As a means of fattening lambs for the English market, there is nothing to equal Rape; they are soon in the pink of condition as required for the export trade, and if there are two or three paddocks of Rape, so that as soon as eaten down, each paddock can be "spelled" the plants soon recover and give a second or third crop almost as good as the first; in fact, if sown in the early autumn it should give several months' feed.

Poultry farmers are finding a small patch of Rape a valuable asset, and for this purpose small successional sowings should be made through the autumn and again in the spring.

Some growers prefer to sow it with Rye Corn, say half-bushel of Rye and two pounds of Rape; others sow it with mustard, using half-a-pound with four pounds of Rape per acre. The inclusion of Mustard corrects the tendency of Rape to sometimes scour.



Rape is Unexcelled for Pig Feed.

We recommend sowing in February, March or April, after the good autumn rains, but as early as possible after the middle of February. It can also be sown with advantage in early spring, especially in the cooler districts. It is extremely hardy. The land should be deeply ploughed and well worked, but if sown on stubble land, it would be enough on light soils to thoroughly stir the surface with a disc harrow; but ploughing and harrowing would be much better still. Sow three pounds per acre in drills, or four to six pounds broadcast. If drilled so much the better, but the depth of the hoes must be adjusted so as not to sow too deeply. Where a machine is not available it may be sown broadcast by mixing with several times its bulk of dry soil, which will materially help to distribute the seed evenly; or it may be evenly distributed with a Cahoon or Chicago Broadcast Seed Sower. We can supply these useful little implements—see page 17. We do not recommend that Rape should be sown on poor hungry land, as it will not succeed; it requires good soil and deep cultivation, and will well repay the labour expended in preparing the land thoroughly. Where manure is employed in growing Rape (and it is a crop which quickly responds to such attention) we would recommend one rich in ammonia—say blood manure or fine bonedust; superphosphate is also used with great success.

As there are several varieties of Rape, some very much better and yielding larger crops than others, also, as many of the cheaper samples are tainted with wild mustard or yellow weed, we would strongly advise growers to buy our re-cleaned seed, and note that each bag is sealed and branded.

LEGUMINOUS CROPS For Autumn Planting

In the agriculture of the world the Leguminaceae (Legume family) rank next in importance probably to the Gramineae (Grass family). For providing a fodder of the highest nutritive quality, for renovating worn out land and for keeping valuable farming land in proper condition, nothing is more useful than the various species of Legumes which are now in commercial use.

MARKET PEAS.

In the highland districts around Sydney and on the tablelands, many farmers now devote a portion of their holding to the growing of green peas for the Sydney market, and in recent years this has proved very profitable. The growing of peas or beans for the vegetable market is excellent practice from a rotation point of view; it rests the land from ordinary farm crops, gives it the advantage of a leguminous crop, and leaves the land in an improved condition for succeeding crops. A fair quality of land and a reasonable use of suitable manure are advisable for best results. Yates' Selected N.Z. grown Greenfeast Peas are the best for main crop. Other largely grown varieties include English Wonder, Richard Seddon, Witham Wonder, William Hurst, Yates' Utility, Little Marvel. The two recently introduced varieties, Yates' Prelude and Yates' Early Surprise are very early sorts and are attracting great interest. Usually 2 bushels per acre is a good sowing, and we advise sowing in drills far enough apart to permit frequent horse cultivation in the early stages of the crop. Prices and varieties on application.

FIELD PEAS

This is a crop which we consider does not receive the attention it deserves. It is an excellent fodder for sheep, pigs and other stock, but we think its main value is when grown as a combined "legume-cereal crop." For this purpose Field Peas are excellent sown with oats or wheat. If sown early with oats they can be grazed off once or twice during the winter and then let go dry for hay. The addition of the pea straw to oaten hay makes a much more balanced ration and it is very palatable to stock.

If sown alone they may be grown to maturity for "topping off" and when cut fed to pigs, or they may be cut green just after flowering, for cattle or pig feed. This crop is classed among the best of the soil improving crops. Even if only the roots are ploughed in the soil is greatly enriched.

Field Peas though not so hardy as Tares or Vetches are earlier maturing, usually cheaper in price, and one grower reports that when grown with a cereal it will stand the trampling of grazing cattle better than will Tares under similar conditions. Field Peas can be sown in the autumn or spring, but in mild districts we prefer autumn sowing.

Sown alone $1\frac{1}{2}$ to 2 bushels per acre broadcast, or say 30lbs. in drills 2 feet apart. Sown with cereal crop try $\frac{1}{2}$ bushel Field Peas with $1\frac{1}{2}$ bushel oats or wheat per acre.

We usually stock the Grey, Blue, and Dun varieties of Field Pea, the Grey and the Dun being perhaps the most popular.

ANNUAL BLUE LUPINS

For green manuring these provide one of the best crops for ploughing in, especially in our cooler districts. When practicable we recommend autumn sowing, but they will succeed if sown in early spring. Lupins grow very rapidly and produce an immense amount of top. Sow at the rate of 2 bus. per acre. For small trials 3 lbs. will sow an area of 100 square yards (10 yds. x 10 yds.)

KUDZU VINE (PUERARIA THUNBERGIANA)

We have had several enquiries for this. It is a perennial legume best adapted for poor soils near the coast. We can only supply in packets and recommend that the seeds be sown in a good patch. The plants will quickly grow and send out long runners which root at every joint. These can then be severed and transplanted and the required area thus quickly covered. Packets 1/-.

For Prices write for Yates' Current Price List.



Yates' Prelude Pea.—A vigorous sturdy variety, but dwarf in habit. It is one of the earliest and bears large crops of straight, pointed, well-filled pods.

TARES or VETCHES

(Golden and Grey or Black)

These are important members of the legume family and are largely grown both for fodder and as a winter green manure. In both cases it is preferable to sow in conjunction with a cereal crop, though they may be used alone as green manure. When used for feed the combination of legume and cereal gives a well balanced ration, and the upright growth of the cereal supports the Tare, which is a climbing or trailing plant. Cows milk well on Tares and it is excellent fattening crop for pigs.

In some of the North Coast districts this crop, either alone or in combination with Rye, Oats, or Barley, is sown on the maize flats, fed off during the winter, and in the spring the residue ploughed in for green manure. Not only does this provide excellent winter fodder but it also maintains the fertility of the flats, thus giving better yields in the succeeding crop. In order to encourage a quick and heavy growth, we advise the application of Superphosphate with this crop.

Tares succeed in a wide variety of soil and districts, so long as there is a good winter rainfall. Seed should be sown in early autumn from February onwards. We would suggest a sowing of from $\frac{1}{2}$ bus. to 1 bus. Tares with a bushel or half-bushel of Oats, Rye, or Barley (or a mixture of the three). The ratio will vary according as the main crop is intended to be the cereal or the legume. The Department of Agriculture recommend 30lbs. Tares with a bushel of grain. The seed can be mixed and broadcast or it can be drilled in. If sown alone up to 2 bushels per acre is ample.

HORSE or TICK BEANS

Somewhat similar in appearance of plant and habit of growth to the garden Broad Bean. They are grown in cool climates for the seeds which form excellent foodstuff. But their main usefulness is as a green manuring crop specially for orchards. When well harvested the haulm also makes useful fodder. Sow about two bushels per acre in the autumn and early winter.

YATES' Re-machined SEED GRAIN

IT PAYS TO SOW YATES' RE-MACHINED SAMPLES

MANY farmers do not yet recognise the importance of procuring the primest and purest samples of grain when sowing for hay, grain or green fodder, and for the sake of a few pence per bushel thousands of bags of the most inferior seed oats are annually sent away to our dairy farmers to grow fodder. The infesting of land with weed seeds, when by paying a little extra price, seed which has been thoroughly re-dressed is obtainable, is surely a poor policy.

The sowing of Re-cleaned Farm Seeds means **CLEANER CROPS, SURER CROPS, HEAVIER CROPS** and what is perhaps of the most importance **CLEAN LAND**.

SEED OATS

Prime Heavy Re-cleaned Samples.

The importance of sowing only re-cleaned and re-graded Seed Oats for green fodder as well as for grain is now beyond the experimental stage. The high cost of labour and high land values make it more than ever necessary to get the most out of the cultivated land. It is better to have ten acres of a really good crop than twice the area giving only an indifferent yield.

We have provided from varied farming experience that the most profitable method of feeding dairy cows for eight months of the year is to plant **Algerian Oats** for grazing. To get the best results the cultivation land should be divided into three or four small paddocks; the crop which has been beaten down soon recovers after a few weeks spell, but continual grazing is wasteful, not good for the crop or the cows. We recommend that a dressing of one cwt. of Bonedust or Superphosphate be used, also five or six pounds of Clover seed per acre be planted with the Oats. This will give a more balanced ration and so increase the milk flow; it will also make the land increasingly fertile, and give a good stubble-feeding during the following autumn.

The **Algerian** variety is of finer growth, stands up to trampling, and is of strong root growth, which prevents it from being easily pulled out. It stands the greatest amount of feeding off, but if the earlier varieties, such as **Sunrise**, **Mulga** or **Myall** are used, good green feed will be had much earlier. By making two sowings of these early varieties about two months apart, continuous grazing will be had from early autumn right into the late spring.

If shut up fairly early in the spring good hay crops can be gathered in addition to the winter grazing.

Yates' Extra Prime AY Re-Machined Samples are the very pick of the lines offering, thoroughly re-cleaned and graded by our special machinery. Every grain should produce a strong, well-nourished plant under proper conditions.

LIST OF VARIETIES.

Algerian—See foregoing, the variety most used for all round purposes, stools well, is very hardy and a great drought resister.

Sunrise—An early oat of medium coarse straw, very suitable for coastal districts; moderate stooler. It should be sown more thickly than **Algerian**. An excellent oat for silage or green fodder, giving a great bulk of feed; it is not so good for hay as **Mulga**, as the stems are not so fine. Stands feeding off well and is much less liable to rust than **Algerian**.

Mulga—A very early maturing selection from **Sunrise**, and better for grazing and fodder in the warmer inland districts. It also does well on the coast and tablelands. It is particularly palatable to stock, is excellent for grazing, as it stands feeding off well; can be sown either early or late. In the former case a lighter sowing is made. It is an excellent oat for grain and produces a fine plump sample in warm districts where **Algerian** will not do well. For grain purposes it is somewhat weak in the straw, so that it should be sown late, when it does not grow too rank and the straw will be four or five quite strong enough, or, if planted early, is kept well fed off in the early part of the season.

Myall—A sister oat to **Mulga**, which it resembles in practically every respect. It is useful for the same purposes as **Mulga**, but it stools slightly better and appears to do rather better than **Mulga** in the cooler districts.

Buddah—The earliest and most rust resistant of the **Sunrise** group. Well adapted for early fodder on coast and for grain in the interior districts.

Guyra—A very early dual purpose oat with medium fine purplish straw. Is excellent for chaff, and the produce weighs well in the bag; it seems specially suitable for cooler districts where it gives a fine yield of plump short dark brown grains. It is about as susceptible as **Algerian** to rust, it stands feeding off well and is much liked for green fodder on the south coast of New South Wales, and should do well on the tableland districts.

Yarran—Crossbred from **Algerian**. It is an excellent early dual purpose oat and the grain is nice and plump.

Warrigal—Selected from **Sunrise** in 1921. This Oat is essentially a grain sort, the seed being large, white and remarkably plump. Recommended as a white feed Oat.

Lachlan—A fairly recent variety which has proved excellent for grain in the warm inland districts.

Ruakura—An early variety that has been practically superseded by the newer early sorts.

Tartarian Side Bearing—Late. One of the earliest white grained varieties, and good for green fodder, especially on the cold highlands.

Dun—Late. Produces hay and grain of fine quality, largely used for feed by race-horse trainers.

Heavy Black—For green feed in cold climates.

Heavy White—A green fodder Oat for moist cool climates.

RYE CORN.

Rye is a very hardy plant, and is largely used for winter feed, especially where the climate is severe; it will stand the heaviest frost. It is particularly good when fed off; many experienced farmers preferring to use it this way, as they find their stock do best while the Rye is young.

It will stand grazing all the winter, and rapidly grows again after being eaten down. It is also used for mixing with Tares, the Rye serving to hold the Tares off the ground. Rye comes into use very early. It is also sown to advantage mixed with Rape. The straw is very valuable for thatching, and some farmers sow the headlands of their hay paddocks with Rye Corn for thatching the stacks. Sow about two bushels to the acre.

Black Winter Rye—The best sort for early [winter] feed, strongly recommended

Mammoth White—The most largely used variety excellent for grazing off and the best sort for collar making.

YATES' Re-machined SEED GRAIN

(Continued)



A fine Wheat crop grown for Seed on the Western Slopes.

SEED WHEATS

Prime, Heavily Re-cleaned Samples.
Grown from Select Stocks.

Wheat is largely used for green fodder and for hay as well as being the world's most important grain crop. It stands dry conditions better than almost any other grain and is therefore of great value for fodder and for hay, as well as for grain in districts of low rainfall. It will often give good crops in seasons which cause oats to be a failure. Following we give a list of varieties which we offer this season, but as supplies of some varieties are somewhat limited, early enquiries are invited. The advantages of sowing only whole plump grain free of pinched broken seeds, weed seeds and foreign matter, is now proved to be worth many, many times the slight extra cost per acre for Re-cleaned Seed; in unfavourable seasons it may mean the difference between a crop and a failure.

Sow up to 2 bushels per acre together with a dressing of 56 lbs. to 112 lbs. superphosphate per acre, according to location and quality of the land.

LIST OF VARIETIES.

Florence (Very Early)—Stools fairly well, growth vigorous and compact, suitable for hay or grain, but especially valuable for green feeding, grazing and soiling in our coastal districts.

Thew (Early)—Medium, tall, good stooling sort. Recommended for hay and for green fodder in the coastal districts, where it has proved one of the best.

Firbank—This old popular hay variety is again available. It is one of the best sorts for coastal districts for green feed and among the best hay varieties for nearly all districts.

Canberra (Early)—A very productive grain wheat and one of the best for late sowing in hot dry districts. Rather slender straw.

Waratah—One of the newer wheats which is coming into great prominence as a high yielding grain variety. In the various wheat growing competitions throughout N.S.W. it has been consistently among the leaders.

Hard Federation (Mid-season)—A favourite variety in the Central Tablelands, Slopes and Northern districts for grain production. Hard grain, stands feeding off. A very good all round wheat.

Soft Federation—Although rather susceptible to rust and to bleaching, this is a very popular mid-season wheat. It is a high yielding grain variety and very drought resistant.

Marshall's No. 3 (Late mid-season)—A variety as valuable for hay as it is for grain. It is a good stooler and should be sown very early. Does well throughout the wheat belt.

Yandilla King (Late)—Another sort which can be grown for both hay and grain and does well in any part of the main wheat belt. Stools well.

BARLEYS.

Barley is the earliest of the grain crops to mature and in this earliness lies also its great value as a green fodder crop. It is one of the sweetest fodders grown and is relished by all classes of stock.

White Skinless.—The earliest variety and very valuable for its quick growth. It affords two cuttings and should be grazed after each; the close feeding seems to cause it to come away with renewed vigor.

Trabut.—A five row bearded barley, very similar to Cape, hardly stools as much, but is slightly earlier; is excellent for early green feed.

Cape.—This is the variety most generally used for green fodder. It grows quickly, stools very well, and gives large bulk of feed; a five row bearded type.

Pryor.—A two row bearded Barley, rather like English, stools well and is rather finer in the straw than Trabut or Cape.

English or Malting Barley, two rowed and bearded, is mostly used for grain for malting purposes, but can also be used for green feed.



A Plot of Wheat on our Testing Grounds.

Write for Current Price List (and samples if required) stating quantity wanted.

Sundry Fodder Crops

FOR AUTUMN PLANTING

SHEEPS BURNET.—This fodder plant has proved itself suitable for our dry inland country, where it would be futile to sow English grasses, and where the soil is not suitable for growing Lucerne. It is one of our best drought resisting plants, and remains green when every other fodder is burnt up, springing again with light showers that would have not the slightest effect on the grass; it is absolutely permanent, and when once established does not die out. It is a herb, not a grass, grows from 15 to 18 inches high, and has a long tap root, which enables it to stand dry weather and grow when other plants with shallower roots are drought-stricken. It grows both in summer and winter, giving the greatest rush of feed in the spring. All animals are fond of it, and thrive well on it, but it is particularly suitable for sheep. Sow ten to twelve pounds per acre. Burnet may, with advantage, be included in Grass Seed Mixtures for poor soils; being a deep rooter it does not rob the surface-rooting grasses, and succeeds where better grasses fail.

CABBAGE, CATTLE.—In cool climates the very large late varieties have a value as cattle feed. Sow in late summer and autumn in seed bed, and afterwards transplant. Sow about half-pound for each acre to be planted out.

CHOU MOELLIER or MARROW KALE.—Variety of Kale. Of extremely vigorous growth and yields enormously. The leaves should be cut, not pulled off the stem, and fresh growths are then formed immediately. The stem is also quite free of woody fibre, and is also greedily eaten by all classes of stock; it can be chaffed after the crop of leaves is exhausted. Sow in early autumn, two pounds to the acre if drilled, or one pound is sufficient if transplanted; the drills should be two feet apart, allowing twelve to fourteen inches between the plants. It does well even in dry seasons, is a splendid milk producer, and does not taint the milk even if fed alone. Trial packets, 6d.

THOUSAND-HEADED KALE.—Few plants will give so great a quantity of feed per acre as Thousand-Headed Kale, and all animals eat it greedily. These should all be sown in a seed bed, and afterwards transplanted to two-and-a-half feet between the plants and three feet between the rows. For the best results sow in summer or early autumn. Trial packets, 6d.

CANARY SEED.—So largely grown for bird seed. It may also be used for hay purposes, requires similar culture to wheat; sow 17 to 20 lbs. per acre. We stock Queensland grown seed, and extra large Morocco grown seed.

CHICORY.—Valuable for its deep rooting action and withstanding droughts. Usually sown in mixtures for second-class land.

LINSEED (N.Z. Grown).—This is grown either for seed, for oil purposes, or for the fibre for linen making, but requires special conditions, which intending planters should inquire into if putting in large areas.

MUSTARD.—For a quick green fodder for fattening lambs, Mustard can be recommended. Sow eight pounds per acre. It is also frequently mixed with rape. It is ready a few weeks after sowing.

SAINFOIN.—As it has not proved to be in demand here we have ceased to carry regular stocks, but will specially import for anyone requiring a quantity. It does exceedingly well on the chalk soils of the south of England.

SWEDE TURNIPS

Swedes can be grown cheaply and with comparative ease on much of the upland country of N.S.W., not only for stock, but for the vegetable market. For sheep they make an excellent fodder, especially as they become available during the winter and early spring when most needed. Sowing should be made in February, March and April at the rate of two to three pounds per acre in drills about two feet six inches apart. Up to 1 cwt. of superphosphate will cause considerable increase in weight and vigor of crop.

YATES' CHAMPION PURPLE TOP.—A standard globe-shaped variety, which gives wonderful returns and is the standard sort for growing for market. Our strains are unexcelled, the crop comes in evenly and the Swedes are well shaped, large and keep well.

YATES' MONARCH.—A large tankard shaped variety, with purple top. Heavy yielder and good keeper. Excellent for stock or market growing.

FIELD TURNIPS.—Valuable for providing stock feed in the winter and early spring months. They are quick growers, especially the white fleshed sorts. They can be planted when it is too late to sow Swedes, and will yield heavy crops. Sow about two pounds per acre in drills. We stock the leading varieties, both white and yellow fleshed.

MANGOLDS and SUGAR BEET.—Wonderful milk producers, and yield immense crops. Sow about September-October; in warm climates an autumn sowing will give a fine winter crop. Plant in well worked clean land, in drills thirty inches apart, to allow horse cultivator to work, and when up, hoe to remove any growth of weeds, and if necessary, thin out to allow the roots to develop. Five pounds per acre of Mangolds and about eight pounds of Sugar Beet are fair sowings. The best varieties are:—
Yates' Mammoth Long Red Golden Tankard
Yates' Champion Yellow Globe Long Yellow
Sugar Beet Wanzleben Giant Half-Sugar Mangold

SALT BUSH.—The preservation of our Native Salt Bushes has been very much neglected. All they require is protection from stock, so that they may seed themselves, which they do most readily. Salt Bush thrives in dry arid districts, where it is difficult to grow the usual fodder plants. They are easily raised from seed or cuttings. One pound should seed an acre.

KURRAJONG (STERCULIA DIVERSIFOLIA).—Many stock owners have to fall back on anything at all edible for the stock during drought, and, as a last resort, the foliage of this tree has considerable value, as well as being very ornamental and enhancing the value of property.

TAGOSTASTE (So-called Tree Lucerne).—Suitable for hedges or breakwind and a stand-by against droughts.

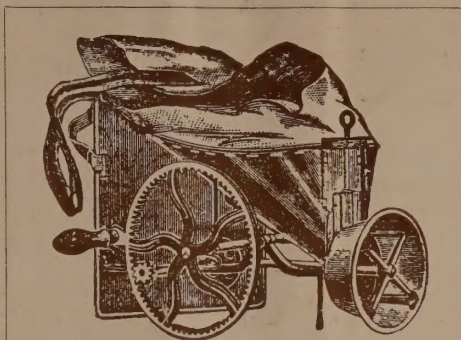
For Prices write for Yates' Current Price List.

BROADCAST SEED SOWERS

FOR sowing broadcast Lucerne, Clovers, Sudan Grass, Millets, Pasture Grasses, etc., and small areas of seed grain, these machines are excellent. We use them on our own farms for sowing Lucerne, Clovers, etc., and we find them of considerable value.

CAHOON BROADCAST SEED SOWER.

A strong well made machine capable of giving long and satisfactory service. Having filled machine and set gauge as per instructions, commence walking at ordinary pace, giving handle one complete turn each step. This will give a fine even sowing. The seed is distributed by a vertical spinning motion driven by a cranked handle. Price, 35s.



The Cahoon Broadcast Seed Sower; strongly made and designed to give long and satisfactory service.

CYCLONE BROADCAST SEED SOWER.

A very simple machine which has proved very satisfactory in service. The seed is distributed by a horizontal spinning motion driven by a cranked handle very conveniently placed. It has an oscillating feed agitating device and an automatic feed adjustment and shut-off. For a good, large sower that will distribute all varieties of farm seed, fertilizer, etc., this machine is strongly recommended. Price, 26s.

CHICAGO BROADCAST SEED SOWER.

A superior type of bow seeder. It differs from the Cyclone only in the manner of operation. It is operated with a steel bow through a swivel guide. Price, 26s.

Yates' Manures & Fertilizers

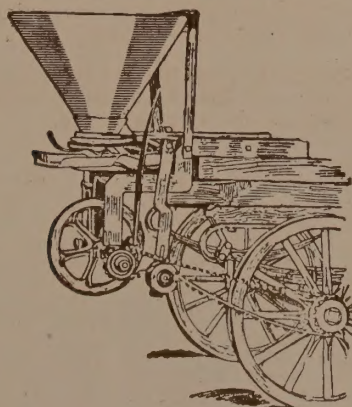
For Bag Lots or over, write for Quotations.

HEAVY and continuous farm crops and good quality flowers and vegetables cannot be grown without manure. Manuring comes next in importance to physical condition of soil, which in turn is dependent on proper drainage, preparation and cultivation of land.

Ordinarily there is nothing to equal stable or farmyard manure, but for farm use it is impossible to obtain in Australia in required quantities. Artificial manures, however, have a very great value, especially if the humus content of the soil is kept up by crop rotation and green manuring. For general purposes superphosphate is an excellent fertilizer, but the following special manures are superior for their respective crops.

MANURES.	Ton.	Cwt.	56lbs.	28lbs.	14lbs.	7lbs.
	£ s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Superphosphate	7 10 0	8 0	4 6	2 9	1 6	1 0
Bonedust	11 0 0	11 6	5 9	3 0	1 9	1 0
Blood and Bone	11 0 0	11 6	5 9	3 0	1 9	1 0
Hydrated Lime	11 10 0	12 6	6 3	4 6	2 6	1 6
Sulphate of Ammonia	19 10 0	20 0	10 0	5 6	3 0	1 9
Sulphate of Potash	19 10 0	20 0	10 0	5 6	3 0	1 9
Nitrate of Soda		20 0	10 0	5 6	3 0	1 9
Yates' Plant Food		16 6	8 3	4 3	2 3	1 3
A.Y. Sweet Pea Manure		17 6	8 9	4 6	2 6	1 6
A.Y. Flowers and Shrubs Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Potato and Tomato Manure		16 6	8 6	4 6	2 6	1 6
A.Y. Cabbage and Cauliflower Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Onion Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Pea and Bean Manure		12 0	6 6	3 6	2 0	1 3
A.Y. Pumpkin and Melon Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Lucerne and Clover Manure		12 0	6 6	3 6	2 0	1 3
A.Y. Maize and Green Fodder Manure		15 0	7 9	4 0	2 3	1 3
A.Y. Maize (for Grain) Manure		13 0	6 9	3 6	2 0	1 3
A.Y. Stone Fruit & Strawberry Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Citrus, Passion & Grape Manure		16 6	8 3	4 3	2 3	1 3
A.Y. Special Lawn Manure		16 6	8 3	4 3	2 3	1 3
A.Y. Rape and Root Crop Manure		14 0	6 9	3 6	2 0	1 3
A.Y. Hay and Pasture Manure		13 0	6 9	3 6	2 0	1 3
Powdered Carbonate of Lime, 5s. 6d. bag						

Prices on Application



THE DOBBIE SEED SOWER AND FERTILIZER DISTRIBUTOR.

FOR sowing Pasture Grasses, Clovers, etc., or distributing "super" on rough uncultivated country, this machine is highly recommended. We ourselves have used it extensively for sowing large areas of Lucerne. As the illustration shows, this machine is mounted on and obtains its power from a horse or motor driven vehicle. All parts necessary to transmit the power are supplied. Prior to the advent of the seed drill, it was used extensively as a distributor for grain seeds, lucerne, etc. Wheat can be sown in a strip 60 feet wide and up to 100 acres per day. It can be used on the roughest of country, provided only that the conveyance does not tip over. This sort of work is of course quite impossible with the ordinary drill. Full particulars and prices on application.

PLANET JR. IMPLEMENTS

THE intelligent use of these wonderful labour-saving implements is a big factor in the successful working of market gardens, orchards, etc. Provided reliable seeds only are sown, regular and accurate planting, followed by consistent cultivation will do more than anything else to ensure big returns. We therefore offer the following machines with every confidence. They are the strongest and most useful on the market, and have an excellent reputation for design and durability. We also stock several other types (see illustrations and descriptions in Yates' Book of Fodder and Grazing Crops, 1927, or Yates' Price List of Implements and Garden Sunnies—Free on request)



Weight packed, 61 lbs.
Holds $2\frac{1}{2}$ Quarts of Seed

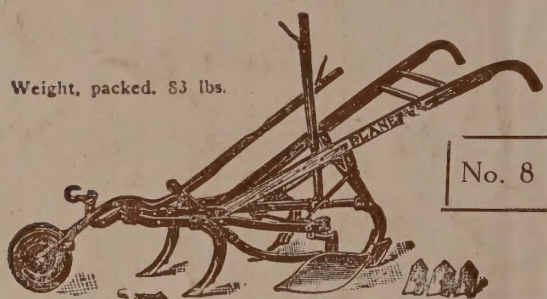
Steel
Frame

No. 25

No. 25—PLANET JR. COMBINED HILL & DRILL SEEDER, DOUBLE AND SINGLE WHEEL HOE CULTIVATOR AND PLOUGH.

An excellent hand machine for either garden or farm. As its name indicates, it is a well designed tool, combining the functions of an efficient seeder for sowing in drills and in hills, a double wheel and a single wheel hoe, a cultivator and garden plough. It will sow almost all varieties of seeds, and this together with its many other uses makes it one of the most useful tools one can have.

Price on Rail or Steamer Sydney £5 17 6



Weight, packed. 83 lbs.

No. 8

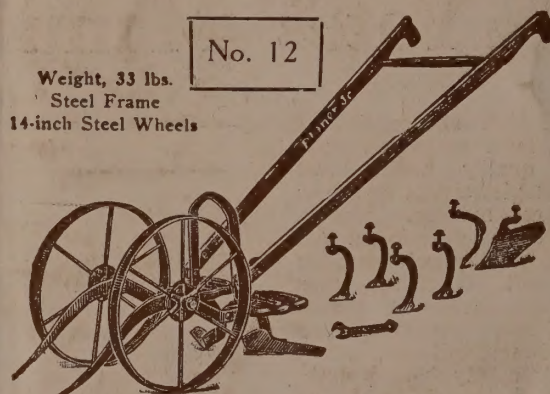
No. 8—PLANET JR. HORSE HOE AND CULTIVATOR.

This horse machine is a general favorite, being complete and easily operated. Believing as we do, that the more thorough the cultivation, the more sure the crop, we would like to see at least one of these implements in use on every farm and large market garden. This machine is made almost entirely of steel, well braced and adaptable to any conditions. Frame of stiff steel, extra long and high, closes to 10 inches and opens to 25. Handles adjustable up, down and sidewise.

Cultivator teeth are of high carbon bevelled steel thereby making them self-sharpening, and the points retain their shape, greatly prolonging the life of the steel. Patent hillers are reversible for hoeing or hilling. Can be run close to the plants without endangering the roots.

We would draw special attention to the depth regulator which operates with the wheel lever. It is an important particular. It controls the depth and steadies the machine and is adjusted in an instant. The solid steel wheel, having no spokes, does not clog with sticks, stones, or trash.

Price on Rail or Steamer Sydney £5 2 6



Weight, 33 lbs.

Steel Frame

14-inch Steel Wheels

No. 12

No. 12—PLANET JR. COMBINED DOUBLE AND SINGLE WHEEL HOE, CULTIVATOR AND PLOUGH.

A double and single wheel hoe in one with high arch, so that crops can be straddled until 20 inches high—ensuring quicker and cleaner work. It may then be used between the rows with one or two wheels. Will do almost any kind of garden work—ploughing, harrowing, hoeing, cultivating opening furrows, covering and hilling, and useful throughout the season. Tools are of special design and specially hardened, given great satisfaction and long service. The hoes are the most useful attachment and wonderful weed killers. All steel cultivator teeth for deep or shallow work, reversible ploughs for the opening or closing furrows, and leaf lifters for late cultivation.

To work effectively the ground must be in a good loose and friable condition. In heavy and badly worked land the use of this implement is not satisfactory.

Price on Rail or Steamer Sydney £3 0 0

ARTHUR YATES & Co., Ltd.

“AUSTRALIA'S GREATEST SEED HOUSE,”

184-186 SUSSEX ST., SYDNEY

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